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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,196	10/10/2001	Doyle E. Bennett	4023/P1/480001	9636
26185	7590	07/10/2006	EXAMINER	
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			ELEY, TIMOTHY V	
			ART UNIT	PAPER NUMBER
			3724	

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/975,196	Applicant(s) BENNETT ET AL.	
	Examiner Timothy V. Eley	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-11,13-24 and 29-41 is/are pending in the application.
- 4a) Of the above claim(s) 23,31-33,35-39 and 41 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,11,13-22,24,29,30,34 and 40 is/are rejected.
- 7) ☒ Claim(s) 7-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/27/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. The indicated allowable subject matter of claims 1,2,4-6,11, and 13-20 has been withdrawn, in view of reconsideration of the previously cited patent to Kubo et al(5,645,474).

Specification

2. The disclosure is objected to because "(t)he lower . . . use" (page 8, lines 32 and 33) is awkwardly worded.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1,2,11,13-17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubo et al(5,645,474).

- Kubo et al discloses a carrier head for chemical mechanical polishing, comprising; a base(top portion of the element depicted by numeral 9, and 2) having at least a portion(2) formed of a polymer; a mounting assembly(bottom portion of the element depicted by numeral 9) connected to the base having a surface for contacting a substrate; a retainer(4) secured to the portion of the base to prevent the substrate from moving along the surface; and a damping material(6) secured between the retainer and the

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portion of the base to reduce the translation of vibrational energy between the retainer and the base. See figure 2, and column 5, lines 35-52.

- Regarding claims 2 and 17, the portion 2 is ring-shaped and extends around a perimeter of the base.
- Regarding claim 11, the entire base is formed from the polymer.
- Regarding claims 13 and 20, a bottom portion of the retainer includes fluoropolymer(fluoride resin). See column 6, lines 1-4.
- Regarding claim 15, the damping material inherently includes polyurethane, since polyurethane is an epoxy resin(see column 6, lines 29-32).

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al.

- Kubo et al is explained above.
- Kubo et al also discloses that the retainer may be formed from polyimide. See column 6, lines 1-4.
- Kubo et al does not disclose that the polyimide is specifically an imidized thermoset.
- However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have chosen any

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particular polyimide capable of adequately making the retainer from since Kubo et al teaches the general use of polyimide as a preferred material for the retainer.

7. Claims 4-6,18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al in view of Wang et al(6,273,803).

- Kubo et al is explained above.
- Kubo et al does not disclose a screw extending through a boss in the ring-shaped body, and through apertures in the base, the ring-shaped body and the damping material and into a receiving recess in the retainer in order to secure the retainer to the base.
- However, Wang et al discloses in figure 10, the use of a boss for reinforcement in a retaining ring used to contact an element next to it, and the boss surrounding a screw which secures the retaining ring to the base.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the Kubo et al apparatus by providing a screw extending through apertures in the base, the ring-shaped body and the damping material and into a receiving recess in the retainer in order to better secure the retainer to the base, as taught by Wang et al. Exactly where a boss is located would have been an obvious matter of design choice to one having ordinary skill in

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the art at the time the invention was made as long as the boss is used to surround the screw for reinforcement.

8. Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubo et al in view of Yamamoto et al(5,740,893).

- Kubo et al is explained above.
- Kubo et al does not disclose a bottom portion of the retaining ring further including carbon fibers.
- Yamamoto et al discloses that it is well known to use graphite or carbon fibers for reinforcement of resin material. See column 7, lines 60-end.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the retaining ring of Kubo et al by using carbon fibers for reinforcing the resin material as taught by Yamamoto et al.

9. Claims 21,29,34, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katzke(3,747,282).

- Katzke discloses a carrier head for chemical mechanical polishing comprising a base; a mounting assembly attached to the base; and a retaining ring(27) secured to the base, at least a portion of the retainer including polytetrafluoroethylene. See figure 3, and column 3, lines 60-end.
- Katzke does not specifically disclose the material selected from the group recited by applicant.

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- However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide any of the particular materials recited for the retaining ring, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. Also, polytetrafluoroethylene is stated in applicant's specification (page 3, lines 5-13) as being part of the preferred group of materials used for making the retaining. Thus, it would have been obvious to one having ordinary skill in the art the time the invention was made that polytetrafluoroethylene would function equally as well as any of the other materials used for making the retaining ring.

10. Claims 22, 24, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katzke in view of Yamamoto et al (5,740,893).

- Katzke is explained above.
- Katzke does not disclose a bottom portion of the retaining ring further including carbon fibers.
- Yamamoto et al discloses that it is well known to use graphite or carbon fibers for reinforcement of resin material. See column 7, lines 60-end.
- Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the retaining ring of Katzke by using carbon

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fibers for reinforcing the resin material as taught by Yamamoto et al.

Allowable Subject Matter

11. Claims 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

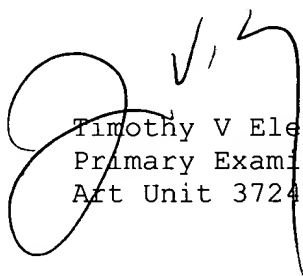
Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy V. Eley whose telephone number is 571-272-4506. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer D. Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Timothy V Eley
Primary Examiner
Art Unit 3724

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